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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 20040414

Application Number: 09/607,268
Filing Date: June 30, 2000
Appellant(s): TILTON ET AL.

Stephen Barns
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 8, 2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

Claims 1-16 are finally rejected under 35 U.S.C. 103(a) and claims 17-24 and 34 have been allowed.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 1-16 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7). It is noted that claims 17-24 and 34 have been allowed.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,591,289	SOUDERS et al.	01-1997
4,985,106	NELSON	01-1991
4,131,664	FLOWERS et al.	12-1978
4,474,846	DOERER et al.	10-1984
5,976,295	ANG	11-1999

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

A. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

B. Claims 1-4 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664).

Souders *et al.* ('289) teach the basic claimed process for making a fibrous headliner (multiplayer composite insulator) including, positioning a fibrous core (26) of polymeric thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) (polymer based blanket material) between fabric layers (40, 42) (see Figure 7) (facing layer) to form an assembly (54), positioning

said assembly (54) between mold dies (58, 60), compressing under conditions of heat said assembly such that said binder fibers melt and are set under heat and pressure to the desired conforming shape (col. 2, lines 20-25 and col. 6, lines 12-15) to form a molded fibrous headliner. Since the molded fibrous headliner of Souders *et al.* ('289) assumes a self-supporting strength, it is submitted that cooling occurs while the molded fibrous headliner is in between mold dies (58, 60). Further, Souders *et al.* ('289) teach opening the mold dies (58, 60) and removing said molded fibrous headliner for further post-molding processing.

Regarding claim 1, Souders *et al.* ('289) do not teach inserting an insulation insert within said assembly (54). Nelson ('106) teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see col. 10, lines 47-59 and, Figures 3 and 6). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6). Therefore, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289). Further regarding claim 1, although Souders *et al.* ('289) teach cooling of the molded fibrous headliner until it assumes a self-supporting strength, Souders *et al.* ('289) further teach a cooling fixture. Flowers *et al.* ('664) teach a molding process for a fibrous acoustical insulator including, providing a mold having heating/cooling channels (see col. 4,

lines 53-60). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a mold having cooling channels as taught by Flowers *et al.* ('664) to cool the resulting molded structure in the mold in the process of Souders *et al.* ('289) in view of Souders *et al.* ('289) due to a variety of advantages such as, reduced costs by not having an additional cooling station, simplicity of mold design, etc. Further, it should be noted that Flowers *et al.* ('664) teach an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55). Therefore, in view of the teachings of Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, whereas Flowers *et al.* ('664) that an insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

In regard to claim 2, Souders *et al.* ('289) teach cutting upper and lower fabric layers (col.. 5, lines 65-68). It is submitted that the fibrous core (26) of polymeric thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) had been cut prior to placing between said cut upper and lower fabric layer (see Figure 7). Nelson ('106) teach using an insulation insert (70) of a pre-selected size and contour. It is submitted that the pre-selected size and contour is obtained by cutting (see col. 10, lines 50-55 and col. 11, lines 59-65). Therefore, it would have been obvious for one of ordinary skill in the art to have cut an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106)

specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289).

Specifically regarding claims 3 and 4, Souders *et al.* ('289) teach a temperature of said assembly (54) between 250-400 ^{o}F (see col. 6, lines 22-27).

Regarding claim 7, Souders *et al.* ('289) teach a compression factor between 10-87.5%.

In regard to claim 8, Souders *et al.* ('289) teach upper and lower fabric layers (40, 42) (see Figure 7).

C. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Doerer *et al.* (US Patent No. 4,418,031).

Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claims 5 and 6, Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a specific molding pressure and time. Doerer *et al.* ('031) teach compression molding of a fibrous core having polymeric thermoplastic binder (carrier) fibers (col. 5, lines 40-57). Further, Doerer *et al.* ('031) teach that the molding temperature, pressure and time depend on the final product. It is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time and pressure as taught by Doerer *et al.* ('031) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in

further view of Flowers *et al.* ('664), because Doerer *et al.* ('031) specifically teach that molding time and pressure are result-effective variables.

D. Claims 9-13 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Ang (US Patent No. 5,976,295) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664).

Ang ('295) teaches the basic claimed process of forming a composite automotive headliner (insulator) including, assembling a fibrous mat (14) having polymeric thermoplastic binder fibers (col. 3, lines 49-57) (polymer based blanket material), a first facing layer (34) and a fibrous composite core (20) (see Figure 3) (facing layer) to form a charge (24), heating said charge (24) in a convection oven such that thermoplastic fibers of fibrous mat (14) soften and bond with other fibers within said fibrous mat (14) (col. 3, lines 53-56 and co. 4, lines 23-30), positioning said heated charge (24) between mold dies (28, 30), compressing said heated charge (24) to a desired shape and cooling said molded headliner (insulator) between mold dies (28, 30) prior to removing said molded headliner (insulator) from said mold dies (28, 30). Since said heated charge (24) assumes the shape of the mold, it is submitted that said heated binder fibers are set under pressure to the desired conforming shape when placed between said mold dies (28, 30).

Regarding claim 9, Ang ('295) does not teach inserting an insulation insert within said assembly (54). Nelson ('106) teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see

col. 10, lines 47-59 and, Figures 3 and 6).). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6). Flowers *et al.* ('664) teach an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55). Therefore, in view of the teachings of Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, whereas Flowers *et al.* ('664) that an insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

In regard to claim 10, Ang ('295) teaches in Figure 4 that fibrous mat (14), first facing layer (34) and fibrous composite core (20) (see Figure 4) forming charge (24) have predetermined dimensions prior to placing between mold dies (28, 30). Further, Ang ('295) specifically teaches cutting fibrous composite core (20) prior to molding (col. 4, lines 48-50), hence it is submitted that the pre-selected dimensions of fibrous mat (14) and first facing layer (34) are also obtained by cutting. Nelson ('106) teach using an insulation insert (70) of a pre-selected size and contour. It is submitted that the pre-selected size and contour is obtained by cutting (see col. 10, lines 50-55 and col. 11, lines 59-65). Therefore, it would have been obvious for one of ordinary skill in the art to have cut an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Ang ('295) in view of Flowers *et al.* ('664), because Nelson ('106) specifically teaches that such an insert provides for improved vibration

dampening, hence providing for an improved fibrous automobile headliner as that taught by Ang ('295).

Specifically regarding claims 11 and 12, Ang ('295) teaches heating said charge (24) between 160-200 °C (see col. 4, line 28) (320-392 °F).

Regarding claim 13, Ang ('295) teaches a molding pressure of 1-10 psi

In regard to claim 16, Ang ('295) teaches a second facing layer (20).

E. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ang (US Patent No. 5,976,295) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Doerer *et al.* (US Patent No. 4,418,031).

Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claim 14, Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a specific molding time. Doerer *et al.* ('031) teach compression molding of a fibrous core having polymeric thermoplastic binder (carrier) fibers (col. 5, lines 40-57). Further, Doerer *et al.* ('031) teach that the molding temperature, pressure and time depend on the final product. It is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time as taught by Doerer *et al.* ('031) in the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Doerer *et al.* ('031) specifically teach that the molding time is a result-effective variable.

F. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ang (US Patent No. 5,976,295) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Souders *et al.* (US Patent No. 5,591,289).

Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claim 15, Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a specific compression ratio. Souders *et al.* ('289) teach the basic claimed process for making a fibrous headliner (multiplayer composite insulator) having a compression ratio between 10-87.5%. Therefore, it would have been obvious for one of ordinary skill in the art to have a compression ratio between 10-87.5% as taught by Souders *et al.* ('289) in the headliner obtained by the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Souders *et al.* ('289) specifically teach that such a ration provides for an improved headliner and also because both Ang ('295) and Souders *et al.* ('289) teach similar end-products, materials and processes.

In regard to claim 16, Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a second facing layer. Souders *et al.* ('289) teach the basic claimed process for making a fibrous headliner (multiplayer composite insulator) having a first and a second facing layer (40, 42). Therefore, it would have been obvious for one of ordinary skill in the art to have a first and a second facing layer as taught by Souders *et al.* ('289) in the headliner obtained by the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Souders *et al.* ('289) specifically teach that such an arrangement provides for

an improved headliner due to improved flexibility and strength, and also because both Ang ('295) and Souders *et al.* ('289) teach similar end-products, materials and processes.

(11) Response to Argument

In view of Appellants arguments and further consideration the rejection of claims 17-24 and 34 has been withdrawn. Claims 17-24 and 34 are allowed.

In response to applicant's arguments against the teachings of Souders *et al.* (US Patent No. 5,591,289), Nelson (US Patent No. 4,985,106) and Flowers *et al.* (US Patent No. 4,131,664) individually (see pages 28-10 of the Appeal Brief filed January 8, 2004), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Appellants argue that Souders *et al.* ('289) "teaches away from the invention of claim 1 by teaching desirability of cooling the assembly outside the mold" (see page 8 of the Appeal Brief filed January 8, 2004). In response, it should be noted that under MPEP §2112, upon "relying...the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). As shown throughout prosecution of the instant invention, because the molded fibrous headliner of Souders *et al.* ('289) assumes a self-supporting strength while in the heating mold in order to be transferred to another cooling mold, it is submitted that a certain degree of cooling occurs while the molded fibrous headliner is in between mold dies (58,

60). Further, it is noted that the teachings of Flowers *et al.* ('664) were used to show a molding process of a fibrous acoustical insulator including, providing a mold having heating/cooling channels (see col. 4, lines 53-60) and an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a mold having cooling channels as taught by Flowers *et al.* ('664) to cool the resulting molded structure in the mold in the process of Souders *et al.* ('289) in view of Souders *et al.* ('289) due to a *variety of advantages* (emphasis added) such as, reduced costs by not having an additional cooling station, simplicity of mold design, etc.

Appellants argue that "the Nelson patent does not teach the concept of molding an insulator into a desired shape, nor does it suggest that such molding could be done while maintaining an insert in a desired or selected position within the product" (see page 9 of the Appeal Brief filed January 8, 2004). In response, it is noted that Nelson ('106) teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see col. 10, lines 47-59 and, Figures 3 and 6). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6). Further, Nelson ('106) teaches that the resulting acoustical absorption panel is to be used in a particular location where a particular vibration problem exists such that when the insulation panel is positioned at the desired location, vibration dampening is automatically achieved (see col. 10, line 58 through col. 11, line 5). Hence, it is submitted that the insulation

insert (48) in the insulation panel of Nelson ('106) must maintain its predetermined location and orientation in order for the panel as a whole to function as described.

In response to Appellants' argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning (see pages 12-15 of the Appeal Brief filed January 8, 2004), it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references (see pages 12-15 of the Appeal Brief filed January 8, 2004), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Appellants argue that the "Examiner merely points to a passage in a first reference (the Flowers et al. patent) that mentions mold-cooling an acoustical panel unlike the one being claimed, a passage in a second reference (the Souders et al. patent) that mentions an insulator without an insert like the one claimed, and a passage in a third reference (the Nelson patent) disclosing an insulator with an insert, but formed using a completely different

technique...[without] some 'objective evidence' of a suggestion to combine their singular teachings" (see pages 16-17 of Appeal Brief filed January 8, 2004). In response, it is noted that:

(a) The primary reference, Souders *et al.* ('289), teach a process for making a fibrous headliner (multilayer composite insulator) including, positioning a fibrous core (26) of polymeric thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) between fabric layers (40, 42) (see Figure 7) to form an assembly (54), positioning said assembly (54) between mold dies (58, 60), compressing under conditions of heat said assembly such that said binder fibers melt and are set under heat and pressure to the desired conforming shape (col. 2, lines 20-25 and col. 6, lines 12-15) to form a molded fibrous headliner. Since the molded fibrous headliner of Souders *et al.* ('289) assumes a self-supporting strength, it is submitted that cooling occurs while the molded fibrous headliner is in between mold dies (58, 60). Further, Souders *et al.* ('289) teach opening the mold dies (58, 60) and removing said molded fibrous headliner for further post-molding processing. In response to Appellants argument that Souders *et al.* ('289) teach away from mold cooling (see page 17 of Appeal Brief filed January 8, 2004), it should be noted that a "prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). As such, although Souders *et al.* ('289) teach a separate cooling fixture, Souders *et al.* ('289) also teach cooling of the molded fibrous headliner in the mold until it assumes a self-supporting strength because, Souders *et al.* ('289) teach removing the molded fibrous headliner from the mold.

(b) The secondary reference, Nelson ('106), teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see col. 10, lines 47-59 and, Figures 3 and 6). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6).

(c) As mentioned throughout prosecution of the instant application, the motivation to combine that teachings of Souders *et al.* ('289) and Nelson ('106) is that it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289).

(d) The secondary reference, Flowers *et al.* ('664), teach a molding process for a fibrous acoustical insulator including, providing a mold having heating/cooling channels (see col. 4, lines 53-60).

(e) As mentioned throughout prosecution of the instant application, the motivation to combine the teachings of Souders *et al.* ('289), Nelson ('106) and Flowers *et al.* ('664) is that it would have been obvious for one of ordinary skill in the art to have provided a mold having cooling channels as taught by Flowers *et al.* ('664) to cool the resulting molded structure in the mold in the process of Souders *et al.* ('289) in view of Souders *et al.* ('289) due to a variety of advantages such as, reduced costs by not having an additional cooling station, simplicity of mold

design, etc. It is noted that under MPEP §2144, the "rationale to modify or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from *knowledge generally available* to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law" (emphasis added). In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

(f) Further motivation to combine the references can be derived from the fact that Flowers *et al.* ('664) teach an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55). Therefore, in view of the teachings of Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, whereas Flowers *et al.* ('664) teach that an insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

Appellants argue that "a convincing line of reasoning" has been provided to show "why the results using the claimed time and pressure ranges are unexpectedly good: a highly absorptive insulator is produced in a similar or faster time at reduced pressures than those disclosed in the prior art" (see pages 20-21 of the Appeal brief filed January 8, 2004). In response, it is noted that the teachings of Doerer *et al.* ('031) were not used to teach specific process parameters. The teachings of Doerer *et al.* ('031) were used to show that in a

compression molding process of a fibrous core having polymeric thermoplastic binder (carrier) fibers the process parameters of molding temperature, pressure and time *depend on the final product* (emphasis added). Further, it should be noted that by definition optimization of process parameters provides for the best possible results because such variables have been optimized.

Furthermore, it is noted that Doerer *et al.* ('031) teaches a temperature of 325-590°F and a heating time of less than a minute, hence teaching the claimed pressure and time ranges. It is submitted that a difference in heating (production) time between "less than a minute" and 45 seconds, as claimed, is not unexpectedly faster.

Although a difference appears in the pressure levels, under MPEP §2144.05(II)(A), in general "differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.)

Therefore, it is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time and pressure as taught by Doerer *et al.* ('031) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) or in the process

of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Doerer *et al.* ('031) specifically teach that molding temperature, time and pressure are result-effective variables.

Appellants argue that Ang ('295) does not "in any way teach the step of preheating an insulator with transferring to the mold with the fibers remaining in a softened state" (see page 23 of the Appeal brief filed January 8, 2004). In response, it is noted that Ang ('295) teaches a process of forming a composite automotive headliner (insulator) including, assembling a fibrous mat (14) having polymeric thermoplastic binder fibers (col. 3, lines 49-57), a first facing layer (34) and a fibrous composite core (20) (see Figure 3) to form a charge (24), heating said charge (24) in a convection oven such that thermoplastic fibers of fibrous mat (14) soften and bond with other fibers within said fibrous mat (14) (col. 3, lines 53-56 and col. 4, lines 23-30), positioning said heated charge (24) between mold dies (28, 30), compressing said heated charge (24) to a desired shape and cooling said molded headliner (insulator) between mold dies (28, 30) prior to removing said molded headliner (insulator) from said mold dies (28, 30). Further, Ang ('295) specifically teaches that the fibrous mat is *transferred* in a *heated condition* (emphasis added) into a mold cavity (see col. 3, lines 66-67). Furthermore, it is submitted that the fibers must be in a softened state when the pre-heated fibrous mat is transferred to the mold in order for said fibrous mat to be shaped in the mold and as such for the invention of Ang ('295) to function as described.

Appellants' arguments with respect to claims 17-24 and 34 are moot because said claims have been allowed.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Stefan Staicovici, PhD 4/14/04

April 14, 2004

Conferees

Mr. Michael Colaianni

4/15/04

Mr. Steve Griffin

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